

What software can do

Integrated Demand Side Management

Using a 2-way communicating thermostat

Centrally located software and algorithms

Create individualized IDSM solution/home



The EcoFactor service

- Leverages PIER-sponsored research
- Reduces HVAC cycling by up to 40%
- Lets consumers choose automated optimization
- Gives consumers greater control
- Delivers EE and DR advantages





- Any two-way communicating thermostat
- Data sent from thermostat to central server
- Recommendations sent back from server
- Consumers can have recommendations applied manually or automatically
- Consumers can always easily override



The science behind the scenes

- Servers log data, determine "dynamic signature" of each home
- Dynamic signature plus other data allows dayahead prediction of HVAC cycling, temperatures and energy consumption

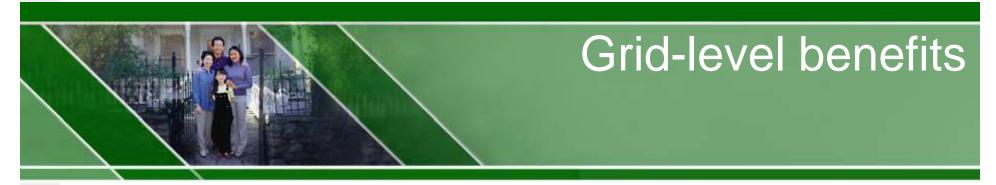


Consumer Benefits

Software can tell consumers WHY their bills are high

- Energy bill = structure + HVAC system + behavior
- We can identify which is at fault, and grade the relative performance of each





- Hourly day-ahead AC load forecasting
- Improved residential DR penetration
- More DR/air conditioned home
- Real-time DR verification
- Multiple DR types (Reliability, Economic, Spinning Reserve)



Real and Pilot-ready

- Successful field trials in summer (Adelaide) and winter (Minneapolis)
- · Savings, load shifting, forecasting all verified





Thank you

John Steinberg

john@ecofactor.com

Scott Hublou

scott@ecofactor.com